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THE MONTANA POWER COMPANY

ANNUAL LONG RANGE PLAN

Filed as April 1, 1983
Pursuant to the Montana Major Facility Act

I.1 INTRODUCTION

Pursuant to Section 75-20-501 of The Montana Major Facility Siting Act and Section 36.7.701-702 ARM, The Montana Power Company hereby submits as of April 1, 1983, its annual Long Range Plan to the Montana Department of Natural Resources and Conservation. Certain voluminous exhibits which are part of this Long Range Plan are not included in each copy of the plan but are on file with the Montana Department of Natural Resources and Conservation for inspection.

It should be noted that the information in this Long Range Plan represents the best efforts of The Montana Power Company to set forth its plans and projections based on present knowledge, data and circumstances. Because present circumstances may unpredictably change, the plans and projections set forth herein may also necessarily change.

II. THE GENERAL LOCATION, SIZE AND TYPE OF THE UTILITY FACILITY TO BE OWNED AND OPERATED BY THE MONTANA POWER COMPANY, WHOSE CONSTRUCTION IS PROJECTED AS OF APRIL 1, 1983, TO COMMENCE DURING THE ENSUING TEN YEARS, AS WELL AS THOSE FACILITIES TO BE REMOVED FROM SERVICE DURING THE PLANNING PERIOD[1].

II.1 ENERGY, GENERATING AND ASSOCIATED FACILITIES

Energy and generating plants to be owned by The Montana Power Company whose construction is projected to commence during the ensuing ten (10) years, including an estimate of applicable filing and construction dates are shown on the chart entitled "Resource Plan" marked Exhibit "A" and attached hereto. Montana Power's load and resource projections are a complex and evolving process and receive substantial time and study by Montana Power. A book prepared by Montana Power Company, "The Montana Power Company - 1983-2005 Projections of Electric Loads and Resources," February-1983, is submitted herewith as Exhibit "B."

This "Resource Plan" has been chosen to provide a reliable, timely, economic, and environmentally compatible plan for providing our future power requirements. The "Resource Plan" provides the flexibility needed to incorporate possible changes and/or modifications which may result due to changes in economics, technology and legislation. The logical assumptions used in choosing this particular " Resource Plan" are described below.

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[1] Montana Major Facility Siting Act 75-20-501(2)(a).

II.1.1 Resource Planning Criteria and Assumptions

The "Resource Plan" is developed to meet the Company's goal to provide safe, reliable service at a reasonable price in a manner which is compatible with the environment. In developing the Resource Plan, it is assumed that existing generating plants will remain available throughout the period. The Company will achieve this through continued efficient operation and proper maintenance. All hydro plants in the existing system are assumed to be relicensed to MPC as current licenses expire. This assumption covers the Kerr site even though there is a competing license application in the relicensing proceedings slated to begin this year before the Federal Energy Regulatory Commission.

In past years, we have assumed that all of our existing Power Purchase Contracts would expire without an opportunity for renewal. However, due to the contract offerings made by BPA under the newly enacted "Pacific Northwest Electric Power Planning and Conservation Act," the Company has been able to continue its 100 MW Peak for Energy Exchange Contract (originally due to expire in 1987) through 2001. Additionally, the operation of the Hanford Nuclear Project has been extended ten years through 1993. MPC has not yet signed this contract pending final negotiations, and it is included in this Plan as a prospective resource. It is assumed that all remaining Purchase Contracts will not be renewed beyond the current contract limits.

Energy resource acquisition timing decisions in this Plan are made on a critical water basis. This is the accepted planning criteria in Montana, the Pacific Northwest and other areas of the U.S. where significant amounts of hydroelectric generation are present. The reason for utilizing critical water planning is to protect our customers against energy curtailments due to water shortages in adverse years. Stream flows, like the weather, are random events in nature and can be forecast only a few days into the future. As such, predominantly hydroelectric power systems have adopted critical water planning as the method to deal with the fact that the amount and timing of the fuel supply are uncertain.

Our current knowledge of energy technologies and economics through at least the 1980's in Montana indicates, at this time, that new energy requirements must, for the most part, be met with hydro plants and fossil fired thermal plants. These resources are added after cost-effective conservation, handled as a load reduction to the forecast, has been acquired. Future peaking requirements will be covered by a combination of purchases, exchanges, load management, interruptible service contracts or hydro peaking plant retrofits and redevelopments.

MPC's Resource Planning process is specifically designed to provide maximum flexibility in meeting the power requirements of our customers. When and if alternative resources

become commercially available and economically competitive with the current planned mix, they will be substituted into the Plan to ensure the least cost electricity supply in the future.

II.1.2 Size, Type and Location of Facilities

Currently, as identified in our "Resource Plan," Exhibit "A," attached hereto, our plans center on the hydro plants, base-load coal-fired energy plants and contracts. Economics today, the anticipated technology available commercially in the late 1980's, and environmental considerations indicate that energy load in the near future will most likely be met by a coal-fired, steam-electric plant somewhere in Montana. However, this position depends on whether Montana's siting and environmental laws and policies will allow any development in the State. We are currently planning for a 330 MW coal-fired plant, which we expect to be commercial sometime between 1990-1996. Our siting studies show that its preferred location is near Salem, Montana.

In arriving at this resource mix, we examined all viable alternative sources of supply. Those which merit special attention in the future are discussed below.

1. Conservation -- We have considered in our load forecasts the potential for conservation which can reasonably be expected from price induced voluntary efforts of our customers. Thus, this

economic "resource" is already included in our base plan for resource additions.

2. Solar Energy -- Solar energy for central station electric generation probably will not be available until after the year 2000. Active solar space and water heating systems are increasingly available now to individuals who can afford the investment and, in so equipping their homes or businesses, can take advantage of various tax credits. Architectural solutions to space heating requirements (passive, earth cover, etc.) are playing increasingly important roles in developing solar energy. The opportunity for electrical load reduction on our system from solar heat is obviously limited because of the existing high incidence of natural gas heating.

We are actively involved with several solar heating projects around the State in monitoring their performance to help develop their economic viability. In addition, MPC will provide loans under its "Zero-Interest Weatherization Loan Program" to those customers interested in pursuing the installation of domestic solar water heaters.

3. Wind Energy -- The development of both small and large wind turbines has progressed considerably in the past year. The Bonneville Power Administration has three, 2.5 MW wind turbines on their system near Goldendale, Washington. The costs of these large units, however, still reflect the large investments required for research and are not economic when compared with conventional power sources.

The tax advantages available to non-utility entrepreneurs coupled with the Montana Public Service Commission's adoption of Cogeneration/ Small Power Production rates and standard contracts for Montana Power is expected to result in electricity purchases by MPC from independent wind energy producers. However, the magnitude and reliability of such purchases is not known or reasonably estimable at this time. As experience with wind energy purchases is gained, the Resource Plan will be adjusted accordingly.

Montana Power at present is owner of a 160 foot meteorological tower located in the Livingston area. Montana Power is also currently involved in purchasing wind-generated power from the City of Livingston.

4. Hydroelectric Potential -- We are continually evaluating the viability of hydroelectric generation in Montana at (1) "small" undeveloped hydro sites, generally where a reservoir already exists, (2) other larger sites, both within and outside the State, such as Buffalo Rapids, Mountain Sheep-Pleasant Valley, and Carter, and (3) at existing hydroelectric plants where redevelopment with larger or more generators might now be economic for increased peaking capacity. All of the hydro projects listed on Exhibit "A" are dependent upon receipt of licenses from the Federal Energy Regulatory Commission and, in addition, the upgrade of Kerr and construction of Buffalo Rapids are dependent upon agreement with the Confederated Kootenai and Salish Tribes. The adoption of Cogeneration/Small Power Production rates and standard contracts by the Montana Public Service Commission for Montana Power and available tax credits may result in electricity purchases by Montana Power from independent small hydro developers. The magnitude of such purchases is not known or reasonably estimable at this time.

As experience with small hydro purchases is gained, the Resource Plan will be adjusted accordingly.

5. Co-generation -- The only cogeneration project on The Montana Power system at present is at the Champion Packaging plant near Missoula. Although we have discussed possible cogeneration projects with a number of industrial firms and governmental entities, there are no firm plans for additional cogeneration on the MPCo.'s system, with the exception of the Bighorn Industries, Inc., 11 MW alcohol cogeneration plant located near Hardin.

The wood products industry is experiencing a shortage of required by-product fuel and is reticent to use additional natural gas or coal for their process steam requirements because of economic or environmental reasons. Other industries, which normally do not produce by-product fuel, cannot for the same reasons justify producing higher temperature and pressure steam for their process requirements plus additional electric generation.

A number of cities and municipalities are studying the possibility of burning wastes. The output from the boilers could be used to produce electric energy. We have been in contact with these possible suppliers to learn their locations and outputs.

II.1.3 Resource Plan Related to Load and Resources

The "Resource Plan" is shown more specifically as it relates to the estimated loads on the tables reflecting Montana Power Company loads and resources marked as Exhibits "C-1" through "C-4" and attached hereto.

These load-resource tabulations list and summarize the total estimated load requirements and the existing resources which are available to meet these loads. The difference between the load and MPC's existing resources is met with the projected resource mix and results in long-term load/resource balance. Maintaining this balance over the planning period with the least cost set of resources" is the goal of the resource planning effort.

II.2 NO GASIFICATION PLANT AND ASSOCIATED FACILITIES PLANNED

At this time, we have no plan for engineering, locating, siting, financing, or constructing a coal gasification plant.

II.3 ELECTRIC TRANSMISSION LINES

Electric transmission line construction projects projected to commence during the next ten years may be classified for purposes of discussion into two groups. The first group consists of those transmission lines for which application has or will most likely be made or a certificate has been received. A second group consists of transmission lines which are now under study by The Montana Power Company for maintaining adequate service to customers for which application may be made during the next ten years. Whether and when these facilities will be built depends upon several factors, including the results of studies now under way by The Montana Power Company, and the future load growth.

II.3.1 Transmission For Which Application Likely

The transmission lines in this first group with their general location and appropriate length and voltage, and their approximate date for filing of application, pre-construction and construction, are shown on the chart entitled "Transmission", marked as Exhibit "D" and attached hereto. Preconstruction activities may include surveying, environmental assessments, right-of-way acquisitions, and centerline location.

II.3.2 Transmission For Which Application May Be Made

The transmission line construction projects in the second group along with their approximate general location, approximate length and voltage, and approximate date for

filing of application and construction are shown on the chart entitled "Potential Transmission," marked as Exhibit "E" and attached hereto.

Hydro projects or additions to existing projects, with the possible exception of Buffalo Rapids, would likely require little or no additions to the existing transmission system. Studies have not been run to provide the final transmission details. The Carter project would be located on the Missouri River near Carter, Montana, and the Buffalo Rapids project would be located on the Flathead River below the Kerr project.

Possible additions of other facilities to our system, discussed previously, may also require additional transmission, but no specific details are yet available.

II.3.3 Possible Relocations, or Upgrading of Transmission

Transmission lines which may be relocated, reconstructed or upgraded which constitute "facilities" or "associated facilities" under the Act, are shown on the chart entitled "Transmission Projects for Conversion to Higher Voltage Levels or to be Reconductored," marked as Exhibit "F" and attached hereto. Transmission lines which are not "facilities" or "associated facilities" under the Act are not included because (1) it is impossible to determine which, if any, small transmission lines not covered by the Siting Act may be relocated, reconstructed or upgraded; and

(2) it is our position that the requirement in the regulations requiring information on transmission facilities of a design capacity of 69 kilovolts or less is beyond the scope and legal authority of the department because those transmission lines are not subject to the jurisdiction of the department under the Act.

III. A DESCRIPTION OF EFFORTS BY THE MONTANA POWER COMPANY TO COORDINATE ITS PLANS WITH OTHER UTILITIES AS TO PROVIDE A COORDINATED REGIONAL PLAN FOR MEETING THE UTILITIES' NEEDS OF THE REGIONS[2]

III.1 GENERAL

Two basic facts are evident from examining The Montana Power Company's coordinated regional planning. First, there is a great amount of cooperation among private and public utilities in the Pacific Northwest. Secondly, there are many benefits to The Montana Power Company and other utilities in the Pacific Northwest and to their customers as a result of this regional cooperation.

The Montana Power Company regional efforts to improve its system reliability and availability of power supply are directed primarily to cooperation with other utilities in the Columbia River Basin of the Pacific Northwest because the River Basin provides a logical planning unit from an historical, geographical and electrical system standpoint.

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[2] Montana Major Facility Siting Act 75-20-501(2)(b).

The Montana Power Company is evaluating the Pacific Northwest Power Planning Council's Draft Plan and that Plan's impact on regional planning.

The Montana Power Company has many agreements, as described in detail below, with other utilities in the Columbia River Basin. Montana Power Company continues these regional efforts to improve reliability and availability of power supply with the publicly-owned utilities (such as rural cooperatives, municipals, and public utility districts) and with privately owned utilities (such as Puget Sound Power and Light Company, The Washington Water Power Company, Portland General Electric Company, Pacific Power and Light Company, etc.) and with other government agencies (such as Bonneville Power Administration, Corps of Engineers and Western Area Power Administration). Montana Power also works closely with utilities in Montana, including the rural cooperatives.

III.2 COOPERATION AMONG UTILITIES

Cooperation among utilities in the Pacific Northwest has historically evolved, and now is structured by various organizations and agreements. For example, these organizations and agreements include:

(1) Western Systems Coordinating Council which was organized August 4, 1967, to promote reliability of bulk power electric systems in the West. Members now include twenty (20) investor-owned and twenty-seven (27) publicly or

cooperative-owned systems as well as fourteen (14) affiliated member electrical systems. The area covers all or parts of fourteen (14) western states, Alberta, and British Columbia. The purpose of the Council is to provide a formal means for exchange of data and information, and to make regional studies and recommendations that will have a favorable bearing on the reliability and adequacy of electric service in the West.

(2) The Pacific Northwest Utilities Conference Committee consists of 108 non-federal public agencies and seven private companies. Its purposes include the coordination of load/resource planning in the Northwest region. The Montana Power Company is now an active and formal member of the Committee.

(3) The Northwest Power Pool, of which The Montana Power Company is one of the organizers, coordinates the bulk power system operation in the Northwest area. It is a longstanding and successful voluntary power pool and one of the oldest in the nation. Members of the Northwest Power Pool coordinate and optimize their respective bulk system operations to enhance reliability and efficiency.

(4) The Intercompany Pool (ICP) is a formal power pool organization of eight investor-owned utilities within the Northwest Power Pool area. Its express purposes include joint planning for additional required resources and transmission, pooling of reserve requirements, and optimizing use and distribution of secondary energy among the members.

(5) The Pacific Northwest Coordination Agreement was culminated in 1964 after years of negotiation among private and public utilities on the Columbia River System. Its principal purposes are to coordinate and optimize hydro generation operation and to allow equitable distribution of benefits from hydro storage developments in the Columbia River Basin.

(6) The Pacific Northwest Power Company, of which The Montana Power Company is a participant, was formed to pursue development of hydro-generation, particularly on the Snake River.

(7) Other agreements among individual utilities such as the AMPS Agreement (Associated Mountain Power Systems), consisting of Pacific Power and Light Company, Utah Power and Light Company, The Washington Water Power Company, The Montana Power Company and Idaho Power Company, are designed for the exchange of power and sharing of transmission capacity. For a limited period this agreement also provided for sharing the costs and outputs of particular steam-generating plants in Wyoming.

(8) The Montana Power Company has been working with Montana-Dakota Utilities to coordinate and optimize gas supply within their systems and Montana.

(9) The Montana Power Company is a party to the Missouri River Coordination Agreement with the Western Area Power Administration which is designed to optimize water power resources in the Missouri River Drainage.

(10) There are also agreements and working relationships with the federal agencies such as the Bonneville Power Administration and the Western Area Power Administration, and with various cooperatives in the State of Montana such as the Central Montana G&T.

III.2.1 Benefits of Regional Cooperation

The benefits of such regional agreements and organizations as discussed above are:

(1) Maximizing the use of resources;

(2) Minimizing the cost of energy to utility customers;

(3) Providing reliability and better service; and

(4) Minimizing environmental impact.

These benefits and objectives are studied and pursued in consideration of climates, water sheds, time zones, types of loads, etc., of each utility in the region. The exchange of power among utilities in the joint participation and construction and operation of facilities inures to all of these objectives.

An example of this type of regional planning by the Pacific Northwest utilities is found in the annual Northwest Regional Forecast of the Pacific Northwest Utilities Conference Committee, (formerly the "West Group Forecast"), which lists the combined resources available to meet those loads. Included in those resources are many

jointly-planned plants to supply future resource requirements.

This regional cooperation allows a utility such as The Montana Power Company, which may have deficiency over a period of years, to import power from another state and utility in order to meet its deficiencies. Such an exchange of power and participation keeps the utility from having to build small facilities every time the utility has a small increase in load demand. The utility may be an importer for a period of time, and then it may be an exporter, and then in a few years, it will become an importer again.

This exchange of power among utilities in the Northwest may also occur at certain times of the year and times of the day because of the diversity of peak loads among utilities in this region.

Secondly, regional cooperation and interconnected systems provide greater reliability to the customers of all regions. For example, if one utility's generation or transmission is out of service, another utility's facilities may help accommodate the utility with facilities out of service.

Thirdly, for the same amount of energy and service, the cost of construction and operation of fewer large facilities is less than the cost of construction and operation of many smaller facilities. This helps get energy to customers at the lowest possible rate.

Fourth, fewer large facilities often have less environmental impact than many smaller facilities. For example, one larger transmission line may be built in lieu of several smaller transmission lines.

In summary, these objectives and resulting benefits of regional cooperation are in the interest of each utility and their customers. It is submitted that the regional cooperation is envisioned in siting legislation such as the Montana Major Facility Siting Act.

III.3 EXCHANGE AGREEMENTS

Previously a list of exchange, pooling and interconnection contracts dated March 30, 1982, was submitted to the Department.

An updated version of the list, dated March 30, 1983, and marked Exhibit "G" is attached hereto.

IV. A DESCRIPTION OF THE MONTANA POWER COMPANY'S EFFORTS TO INVOLVE ENVIRONMENTAL PROTECTION AND LAND USE PLANNING AGENCIES IN THE PLANNING PROCESS, AS WELL AS OTHER EFFORTS OF THE MONTANA POWER COMPANY TO IDENTIFY AND TO MINIMIZE ENVIRONMENTAL PROBLEMS AT THE EARLIEST POSSIBLE STAGE IN THE PLANNING PROCESS[3]

IV.1 GENERAL ENVIRONMENTAL POLICY

It is The Montana Power Company's policy to participate with federal and state agencies, as well as public interest groups and citizens, to encourage coordination of energy and environmental programs.

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[3] Montana Major Facility Siting Act 75-20-501(2)(c).

IV.2 PARTICIPATION IN LAND USE AND ENVIRONMENTAL PLANNING

The Montana Power Company continues to research new environmental technologies as an integral part of its energy planning process.

As part of the work on Colstrip Units 3 and 4, the engineering staff has worked closely with the United States Environmental Protection Agency (EPA) on meteorological and air quality modeling pursuant to meeting Class I air quality standards of the Northern Cheyenne Indian Reservation, south of Colstrip. Venturi wet scrubbers, which were substantially new technology when installed by The Montana Power Company at Colstrip Units 1 and 2, will be used at Units 3 and 4. Also, a process that employs dolomitic lime to increase sulfur dioxide removal from emissions has been developed for use at Colstrip Units 3 and 4.

The Montana Power Company provides the Montana Department of Health and Environmental Sciences with monthly ambient air quality reports from monitoring stations in the Colstrip vicinity. The Company provides the Department with periodic groundwater quality reports from sample wells at Colstrip. Under the Montana Pollution Discharge Elimination System of the Clean Water Act, the Company also provides the Department and the EPA with quarterly water quality reports on discharges from the Company's sewage treatment plants and monthly reports on water discharge from the J. E. Corette Generating Plant at Billings.

The Montana Power Company is conducting, supporting, or participating in a number of environmental studies. At Colstrip, studies underway include monitoring the water in the settling ponds, conducting a long-term infrared study of the 200-square-mile area surrounding Colstrip, surveying vegetation through a study contracted to the Montana Agricultural Experiment Station and monitoring the benthic community and water quality. Outside the Colstrip area, a study is proceeding on sediment loading of the Clark Fork River near Missoula; general Bio surveys are proceeding on the Clark Fork River near Thompson Falls and on the Missouri River near Helena and Great Falls. Recreation and archeological resource analyses have been completed for Thompson Falls and an in-progress for the Missouri River near Helena and in the Great Falls area. In the Canyon Ferry area, we are engaged in an osprey study with Montana State University.

In transmission and pipeline projects, it is the Company's policy to involve early in the planning process appropriate land-use planners at the federal, state and local levels as well as individual landowners. Environmental assessments are provided by the Company for projects that affect waterways, federal lands or state lands. The Company also submits formal comments on land-use plans proposed by federal agencies.

The Montana Power Company's environmental staff is comprised of a rather wide background of expertise. The

disciplines represented are biology, geology, recreation resourse management, archeology, socioeconomics, environmental engineering, electronic and computer technology. Expertise is kept up-to-date by on-going participation in various professional associations. Active membership is maintained in the following: Ecological Society of America, American Fisheries Society, North American Benthological Society, Power Biologists Association, Air Pollution Control Association, American Chemical Society the National Recreational & Park Association, the American Economic Association, Montana Historical Association, Lewis and Clark Trail Heritage Foundation and the Montana Archeological Association. The staff also participates in various state and federal environmental activities.

V. PROJECTIONS OF THE DEMAND FOR SERVICES RENDERED BY THE MONTANA POWER COMPANY AND EXPLANATION OF THE BASIS FOR SUCH PROJECTIONS, AND A DESCRIPTION OF THE MANNER AND EXTENT TO WHICH THE PROPOSED FACILITIES WILL MEET THE PROJECTED DEMAND[4]

V.1 GENERAL

The Montana Power Company continuously monitors the demand for electricity and studies and pursues alternate resources to meet the demand. In addition to following the national and regional trends in energy use and developments in resource technology, the Company also makes load and resource forecasts of its own system.

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[4] Montana Utility Siting Act Section 75-20-501(2)(d).

V.1.2 System Load Forecasts

Total system load forecasts are reviewed and updated frequently by The Montana Power Company. The latest official forecast was made in Fall, 1982. The projected annual loads for the next twenty-three (23) operating years (July-June) are shown for annual energy and peak on the charts, marked Exhibits "C1" through "C4" and attached hereto.

V.1.2.1 Process and Assumptions

The electric load forecast of The Montana Power Company is developed from a five sector model with sector definitions determined by electricity usage patterns. The five sectors are: Residential, Commercial, Industrial, Contract Industrial, and other. Sales to each sector are forecast independently for a 20-year period, and then disaggregated and/or adjusted to produce detailed revenue forecasts and a load forecast that is the basis of the Company's long range resource planning. The forecast is produced through the use of computer modeling with applications of informed professional judgment where necessary and appropriate.

The Contract Industrial sector consumes about 24% of MPC's total sales and consists of ten large contract customers involved in various industrial processes including primary metal mining, petroleum refining, woods products manufacturing and general smelting. As such, this sector does not lend itself to modeling at MPC's service territory level. The forecast is derived through detailed interviews

with each firm concerning future additions or deletions of electricity using machinery, etc.

The Other sector is composed of several small nonhomogeneous and/or flat loads. Each component of the Other sector (in total, this sector consumes 11% of MPC's total sales) is forecast individually by trending, contract interpretation and professional judgment.

The Residential, Commercial, and Industrial sectors account for about 65% of MPC's total sales. These three sectors are each modeled econometrically. The three models are of the "aggregate econometric" type which is to say they are primarily driven by an economic base model of the State, which in turn determines population and other associated demographic and economic characteristics of that population (e.g., age distribution, labor force participation rates, employment and income by sector, and migration rates). The economic base of an area is dependent on those business activities which bring "new" dollars into the economy by selling exports. For Montana, these "basic" activities include agriculture, mining and refining (including oil, gas, coal, among others), manufacturing (primarily wood products), and tourism. Our forecast for each of these industries (coupled with the national outlook) is the foundation of the econometric portion of the Load Forecast and also one of the primary judgmental components in the forecasts of the other two sectors.

Our current load forecasts do not specifically include several potential new industrial loads of which we are aware and which are sufficiently large to merit special treatment in the forecasting effort. The plans are not yet "firmed up" to the point where we feel we have a commitment to serve, so they are not yet included in the Base Case forecast. Some of these loads are: (1) the Northern Tier Pipeline, (2) Alumax, and (3) additional mineral developments. The forecast does include the reduction in load caused by the Anaconda Company's plant closures in Anaconda and Great Falls and the cessation of underground operations in Butte.

V.1.2.3. Results*

The results of the 1983-2005 electric load forecast are summarized in Exhibits "H" and "I." Exhibit "H" shows the main input variables which drive the forecast. By historical standards, particularly the past ten to twenty years, these forecasts represent a modest outlook for economic growth in both the Nation and Montana. Population growth, since it is a function of economic activity in the State, is also expected to grow at a slower pace. Population growth during the 1970's in Montana was approximately 1.4% per year compared to the forecast of 1.05% per year for the remainder of this century.

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*The results presented here are for the "Base Case" Scenario.

While economic and demographic activity are forecast to proceed at a slower than historical (although stable upward) rate, energy prices are expected to rise significantly. Electricity prices paid by MPC customers are forecast to increase in real terms over the next twenty years after having decreased in real terms between 1950 and 1980. The reasons for this growth are the additions of new resources which, while being very low cost resources in today's market, are more expensive than the embedded system. The result of rising prices will be lowered consumption of electricity as consumers move to utilize electricity more efficiently.

Overall, the forecasts of the major driving input variables would indicate slower than historical load growth for MPC. The results shown in Exhibit "I" reflect this set of circumstances.

V.1.3. Substation Load Analysis by Unit Area

In addition to making load and resource forecasts for its total system, The Montana Power Company also monitors loads on each of its approximately 600 substations throughout its service area. The monthly peak and average kilowatts used at each of these substations during 1982 are shown on the table marked Exhibit "J," entitled 1982 Peak and Average Kilowatt Readings for Distribution Substations, which is voluminous and one copy will be submitted to the Department along with this Long Range Plan.

Future demand patterns of a substation unit area for annual increments for the next ten years are shown on the table marked Exhibit "K," entitled "Estimated Peak Substation Load in Kilowatts 1983-1992" which is voluminous and one copy will be submitted to the Department along with this Long Range Plan. The area each of the substations serve and the substation are identified by an installation number, shown on a map which map will also be separately submitted to the Department.

The "NA" designation on the map indicates that the load for that particular substation was not acceptable. Such a designation is a result of one of several possible reasons, including that the reported substation load was obviously incorrect or no reading was reported.

The Estimated Peak Substation Load shown on the map is based on a recording period from April through March in each year.

The column headings are the year in which the recording period started. This is done so that winter peaks may be recorded for the three consecutive winter months of December, January and February; i.e., the 1982 peaks including December of 1982 and January and February of 1983. The peaks indicated are not coincidental. They represent the maximum peak reading anticipated for that season and may occur at any time during that season.

The basic projections were made by fitting a compound growth curve by means of a least squares method fit to the existing data. The projections were then analyzed for their validity, taking into consideration the number of years of data the projection was based on, recent trends in the area, and known load additions. If a projection made by this method is obviously not valid, a reasonable prediction is made based on historical and known load growth data for the area.

V.1.4 Manner of Meeting System Area Loads

Projections based on continuous monitoring of substations and other factors are studied by The Montana Power Company to determine what expansion programs are necessary on its system. Expansion programs may mean increasing transformer size for capability, adding transformers, or building new substations, new transmission, or generation facilities. New substations or a shifting of loads from substation to substation or transformer to transformer may give an erroneous impression of actual area growth. A careful analysis of changes which have taken place is necessary to determine actual load growth in an area. To establish load growth rates, many factors must be considered and analyzed. Weather conditions, extended outages, switching of loads, construction procedures, industrial and commercial development, urban development, development of residential subdivisions, irrigation and

pumping, electric space heating and air conditioning requirements, changes in life styles, and the impacts of alternate energy sources are some of these factors which must be considered as they may affect load growth rates. It should be noted that the sum of the individual substation loads is not equal to the total system load forecast for two major reasons: (1) the substation loads do not include transmission losses sustained on the system between the resource and the substation, and (2) there is substantial diversity among the times of the individual substation peak loads. In load flow and stability computer studies of the entire system, the load distribution across the system is derived using proportionately "shrunk" substation loads so that their sum does equal the total system load forecast. In detailed studies of particular areas of the system, the substation load forecasts are used unadorned since that particular area can be expected to experience its own undiversified load.

When it appears that additional transmission lines or generation are needed as a result of this monthly and yearly monitoring of substation load changes and as a result of all of the many other factors such as weather conditions, extended outages, switching of loads, industrial and commercial development, urban development, irrigation and pumping, etc., then more detailed studies of transmission line and generation requirements are made.

In addition to the continuous monitoring of the entire system by monthly and yearly changes, The Montana Power Company also takes into consideration the anticipated trends in type of load growth. For example, The Montana Power Company considers inquiries or requests for major additional loads from industrial, agricultural or other sources. The Montana Power Company also considers and anticipates that certain uses of electricity, such as the use of electricity for sprinkler irrigation or home heating, will create substantial additions to its load demand.

The Montana Power Company, in an attempt to fulfill its responsibility to provide electric service to its customers, attempts to balance electrical resources against electrical load. This is done on both a peak and energy basis. Such forecasts must also include consideration of reserves which are required to make sure that the Company can serve its customers at all times. The forecasts also take into account required down time of plants and facilities for maintenance and contracts of exchange with other utilities. When it is determined that a new source of generation or transmission is needed, The Montana Power Company considers the alternatives for meeting these requirements and makes further detailed studies regarding the needed facility. As pointed out in Section III hereof, such studies are often conducted in cooperation with other utilities in the region.

V.1.5 Whether Projected Facilities Will Meet Projected Demands

The general size and type of utility facilities to be owned and operated by The Montana Power Company, which are discussed in Section II above of this Long Range Plan, are a result of all of these studies and considerations regarding projection and demand on both a total system basis and on a substation unit basis. If the facilities that are proposed in Section II above are allowed to be built as scheduled by The Montana Power Company, such facilities should adequately meet the projected demand. However, because some of the facilities including transmission lines such as Clyde Park-Big Sky-Dillon, Bonner-Missoula #4, Missoula #4-Hamilton Heights, and generating plants, such as Colstrip 3 and 4, have been delayed, primarily by regulatory authorities, litigation, and right-of-way acquisition, customer demand may not be adequately met.

EXHIBIT A

RESOURCE PLAN

	1983				1984		1985							
	1st	2nd	3rd	4th	1st	2nd	1st	2nd	1986	1987	1988	1989	1990	1991	1992
- Colstrip #3	C	C	C	C											
- Colstrip #4	C	C	C	C	C	C	C								
- Salem *						P	P	P	P/C	C	C	C	C		
- Kerr Hydro Upgrade						F							P	P	C
- Thompson Falls Hydro											P	P	C	C	C
- Hauser Hydro					F										
- Ryan Hydro												P	P	P	C
- Carter Hydro					F										
- Buffalo Rapids Hydro								F							

Fp - File Preliminary Permit Application
F - File Application With Appropriate Agencies
P - Preconstruction
C - Construction

Schedule Commercial Operation Dates

Colstrip #3 January, 1984
Colstrip #4 July, 1985

* Construction schedules reflect the earliest in service date as per the MPC Planning Range as shown in Exhibits C-1 through C-4. Timing is contingent upon continued re-evaluation of MPC forecasts of future load requirements.

EXHIBIT "B" IS VOLUMINOUS

AND HAS BEEN SUBMITTED

ONLY TO THE DEPARTMENT OF

NATURAL RESOURCES & CONSERVATION

EXHIBIT C-1

THE MONTANA POWER COMPANY
ENERGY - AVERAGE MW, BASE CASE

YEAR:	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05
ENERGY LOAD:	810	845	867	886	907	930	954	975	998	1021	1042	1062	1083	1103	1120	1133	1149	1166	1184	1201	1219	1237	1256
RESOURCES:																							
HYDRO, CRITICAL	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337
BIRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIESEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORETTE	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139
COLSTRIP 1	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
COLSTRIP 2	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
COLSTRIP 3	0	76	162	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
COLSTRIP 4	0	0	0	151	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
WWP(PEAK)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BPA PEAK PURCHASE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BPA(FP/EN EXCHANGE)	-27	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	0	0	0	0
WWP NO 1	68	68	68	68	68	68	68	68	65	65	65	65	65	65	0	0	0	0	0	0	0	0	0
HANFORD EXT.	41	39	39	39	39	39	39	39	39	39	39	0	0	0	0	0	0	0	0	0	0	0	0
PGE	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHEELING	25	27	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KERR UPGRADE '88'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KERR UPGRADE '89'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HAUSER UPGRADE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2
T.FALLS UPGRADE	0	0	0	0	0	0	0	0	0	0	0	21	21	21	21	21	21	21	21	21	21	21	21
RYAN UPGRADE	0	0	0	0	0	0	0	0	0	0	0	5	5	5	5	5	5	5	5	5	5	5	5
CARTER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38	38	38
SALEM PLANT	0	0	0	0	0	0	0	0	0	0	0	0	0	119	255	271	271	271	271	271	271	271	271
TOTAL RESOURCES:	866	926	1014	1147	1168	1167	1168	1168	1165	1165	1165	1152	1152	1271	1341	1358	1358	1358	1360	1427	1427	1427	1427
MAINTENANCE:	35	35	60	66	92	63	63	63	63	63	63	63	63	63	103	86	86	86	86	86	86	86	86
SURPLUS(DEFICIENCY): OVER CRITICAL WATER	21	46	87	195	169	174	151	130	104	81	60	27	6	105	118	139	123	106	90	140	122	104	85
MEDIAN WATER ADDER:																							
EXISTING	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
PLANNED	0	0	0	0	0	0	0	0	0	0	0	19	20	20	20	20	20	20	26	43	43	43	43
SURPLUS(DEFICIENCY): OVER MEDIAN WATER	88	113	154	262	236	241	218	197	171	148	127	113	93	192	205	226	210	193	183	250	232	214	195

THE MONTANA POWER COMPANY
PEAK - MW, BASE CASE

YEAR:	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05
PEAK LOAD:	1251	1284	1314	1341	1371	1403	1435	1464	1496	1528	1557	1586	1615	1644	1669	1687	1709	1733	1757	1781	1806	1832	1858
RESOURCES:																							
HYDRO, CRITICAL	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518
BIRD	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
DIESEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORETTE	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180
COLSTRIP 1	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165
COLSTRIP 2	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165
COLSTRIP 3	0	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
COLSTRIP 4	0	0	0	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
WWP(PEAK)	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BPA PEAK PURCHASE	0	0	0	0	0	0	0	0	0	0	0	0	25	25	0	0	0	0	0	0	0	0	0
BPA(PA/EN EXCHANGE)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
WHP NO 1	80	80	80	80	80	80	80	80	77	77	77	77	77	77	0	0	0	0	0	0	0	0	0
HANFORD EXT.	80	80	80	80	80	80	80	80	80	80	80	0	0	0	0	0	0	0	0	0	0	0	0
PGE	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHEELING	21	24	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KERR UPGRADE '88'	0	0	0	0	0	0	0	0	0	0	0	19	19	19	19	19	19	19	19	19	19	19	19
KERR UPGRADE '89'	0	0	0	0	0	0	0	0	0	0	0	0	9	9	9	9	9	9	9	9	9	9	9
HAUSER UPGRADE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	25	25	25	25
T.FALLS UPGRADE	0	0	0	0	0	0	0	0	0	0	0	0	50	50	50	50	50	50	50	50	50	50	50
RYAN UPGRADE	0	0	0	0	0	0	0	0	0	0	0	40	40	40	40	40	40	40	40	40	40	40	40
CARTER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100
SALEM PLANT	0	0	0	0	0	0	0	0	0	0	0	0	0	330	330	330	330	330	330	330	330	330	330
TOTAL RESOURCES:	1478	1642	1592	1778	1778	1778	1778	1778	1775	1775	1775	1829	1838	2143	2066	2066	2066	2066	2091	2091	2091	2091	2091
FORCED OUTAGE RESERVES:																							
ICP	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
NEW PLANT	0	31	31	63	63	63	63	63	63	63	63	68	69	118	118	118	118	118	120	125	125	125	125
SURPLUS(DEFICIENCY):	59	159	79	206	176	144	112	83	48	16	-13	7	-14	213	111	93	71	47	46	17	-8	-34	-60

EXHIBIT C-3

THE MONTANA POWER COMPANY
ENERGY - AVERAGE MW, HIGH SCENARIO

YEAR:	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05
ENERGY LOAD:	812	846	872	940	1004	1030	1066	1116	1162	1198	1222	1247	1274	1301	1326	1350	1374	1399	1425	1452	1481	1512	1544
RESOURCES:																							
HYDRO, CRITICAL	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337	337
BIRD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIESEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORETTE	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139	139
COLSTRIP 1	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
COLSTRIP 2	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
COLSTRIP 3	0	76	162	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
COLSTRIP 4	0	0	0	151	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172	172
WWP(PEAK)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BPA PEAK PURCHASE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BPA(PK/EN EXCHANGE)	-27	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	-29	0	0	0	0
WNP NO 1	68	68	68	68	68	68	68	68	65	65	65	65	65	65	0	0	0	0	0	0	0	0	0
HANFORD EXT.	41	39	39	39	39	39	39	39	39	39	39	0	0	0	0	0	0	0	0	0	0	0	0
PGE	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHEELING	25	27	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KERR UPGRADE '88'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KERR UPGRADE '89'	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
HAUSER UPGRADE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2	2	2
T.FALLS UPGRADE	0	0	0	0	0	0	0	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21	21
RYAN UPGRADE	0	0	0	0	0	0	3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CARTER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38	38	38
SALEM PLANT	0	0	0	0	0	0	0	0	179	263	271	271	271	271	271	271	271	271	271	271	271	271	271
GENERIC PLANT #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	238	271	271	271	271	271	271	271	271
TOTAL RESOURCES:	866	926	1014	1147	1168	1167	1171	1193	1369	1453	1461	1423	1423	1423	1596	1629	1629	1629	1631	1698	1698	1698	1698
MAINTENANCE:	35	35	60	66	92	63	63	63	103	86	86	86	86	86	126	109	109	109	109	109	109	109	109
SURPLUS(DEFICIENCY): OVER CRITICAL WATER	19	45	82	141	72	74	42	14	104	169	153	90	63	36	144	170	146	121	97	137	108	77	45
MEDIAN WATER ADDER:																							
EXISTING	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67	67
PLANNED	0	0	0	0	0	0	11	20	20	20	20	20	20	20	20	20	20	20	26	43	43	43	43
SURPLUS(DEFICIENCY): OVER MEDIAN WATER	86	112	149	208	139	141	120	101	191	256	240	177	150	123	231	257	233	208	190	247	218	187	155

EXHIBIT C-4

THE MONTANA POWER COMPANY
PEAK - MW, HIGH SCENARIO

YEAR:	82-83	83-84	84-85	85-86	86-87	87-88	88-89	89-90	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03	03-04	04-05
PEAK LOAD:	1255	1284	1320	1459	1492	1528	1612	1651	1685	1718	1751	1784	1820	1855	1888	1918	1951	1981	2012	2046	2083	2121	2161
RESOURCES:																							
HYDRO, CRITICAL	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518	518
BIRD	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	70
DIESEL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORETTE	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180
COLSTRIP 1	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165
COLSTRIP 2	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165
COLSTRIP 3	0	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
COLSTRIP 4	0	0	0	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210	210
WWP(PEAK)	50	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BPA PEAK PURCHASE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BPA(PK/EN EXCHANGE)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0	0	0
WWP NO 1	80	80	80	80	80	80	80	80	77	77	77	77	77	77	0	0	0	0	0	0	0	0	0
HANFORD EXT.	80	80	80	80	80	80	80	80	80	80	80	0	0	0	0	0	0	0	0	0	0	0	0
PGE	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WHEELING	21	24	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
KERR UPGRADE '88'	0	0	0	0	0	0	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19	19
KERR UPGRADE '89'	0	0	0	0	0	0	0	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
HAUSER UPGRADE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	25	25	25	25
T.FALLS UPGRADE	0	0	0	0	0	0	0	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
RYAN UPGRADE	0	0	0	0	0	0	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
CARTER	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	100	100
SALEM PLANT	0	0	0	0	0	0	0	0	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330
GENERIC PLANT #1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	330	330	330	330	330	330	330	330	330
TOTAL RESOURCES:	1478	1642	1592	1778	1778	1778	1837	1896	2223	2223	2223	2143	2143	2143	2396	2396	2396	2396	2421	2421	2421	2421	2421
FORCED OUTAGE RESERVES:																							
TCP	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168	168
NEW PLANT	0	31	31	63	63	63	66	69	118	118	118	118	118	118	168	168	168	168	169	174	174	174	174
SURPLUS(DEFICIENCY):	55	159	73	88	55	19	-9	8	252	219	186	73	37	2	172	142	109	79	72	33	-4	-42	-82

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EXHIBIT D
Page 1 of 2

TRANSMISSION
TEN YEAR PLAN

Project & General Location	Voltage (kV)	Approx Length (Miles)	1983 1st Qtr	1983 2nd Qtr	1983 3rd Qtr	1983 4th Qtr	1984 1st Half	1984 2nd Half	1985 1st Half	1985 2nd Half	1986	1987	1988	1989	1990	1991	1992
Colstrip-Broadview "A"	500	113	C	C	C	C											
Broadview-Townsend "A"	500	136	C	C	C	C											
Broadview-Townsend "B"	500	136	C	C	C	C											
Laurel Auto-Park City	50	15					P	P	C	C	C						
Convert Rimrock-Bellrock-8th Street Line to 100 kV	100	12				F	P	P	C	C	C						
Bozeman-Patterson Sub Tap	50	4					C	C	C	C							
Reconductor Sun River	69	31							C	C							
Loweth-White Sulphur "A"	69	16	C	C	C	C	C	C	C	C							
Plains 100 kV Tap Line	100	4					C	C		C							
Salem Plant Transmission	230	19	S	S	S	S	S	S	S	S	P	P	P	P	C	C	C
Dillon-Sheridan	161	36.8	C		C												
Sheridan-Ennis	161	21.8	P	P	C	C	C	C									
Ennis Auto-Ennis City	69	2.4		P	P	P	C	C		C							
Bozeman-Ennis	161	51	P	P	C	C	C	C		C							
Jackrabbit-Belgrade	50	7.8	P	P	P	P	C	C		C							
Ennis-Big Sky	161	25			P	P	P	P	C	C	C						
Laurel-Bridger "B"	100	33		F	S	S	P	C	C		C						
Anaconda-Philipsburg	100	27				F	S	P	C	C	C						
Garrison-Helena	230	50				F	S	S	P	P	C	C					
Roundup-Ivanhoe-Sumatra	100	35			F	S	S	P	P	P	C	C					

TRANSMISSION
TEN YEAR PLAN

Project & General Location	Voltage (kV)	Approx Length (Miles)	1983 1st Qr	1983 2nd Qr	1983 3rd Qr	1983 4th Qr	1984 1st Half	1984 2nd Half	1985 1st Half	1985 2nd Half	1986	1987	1988	1989	1990	1991	1992
Ovando-Missoula	230	60						F	S	S	P	C	C				
Plains-Superior-St Regis	100	25						F	S	S	P	P	C	C			
Judith Gap-Glengarry	100	31		F	S	S	P	P	C	C	C						
Alkali Creek-Laurel	230	21			F	S	S	P	C	C	C						
Clyde Park-Emigrant Line Tap	161	42		P	P	P	C	C	C								
Emigrant-Gardiner	69	25							P	P	C	C					
Missoula-Hamilton Heights	161	40		C	C												
Bonner-#4 Substation	161	15	P	P	C	C	C										
East Gallatin-Belgrade	50	10	C			C											
Ulm-Great Falls	100	15			F	S	S	P	C	C							
Stevensville-Missoula-Hamilton "A" and "B" Tie	69	1.2			P	P	C	C	C								
Helena Southside-Fort Harrison	100	6						P	C	C	C						
Assiniboine-Loredo	69	10					P	C	C	C	C						
Wicks Lane	230	4					P	P	C	C	C						
Tap Line to Castle Rock Substation	115	4		C	C												
Conrad Auto-West Conrad REA	69	2.2					P	C	C	C	C						

F = File Application
P = Studies and Preliminaries Before Construction
S = Study Time and Hearing
C = Construction

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EXHIBIT E

POTENTIAL TRANSMISSION

Project & General Location	Voltage (kV)	Approx Length (Miles)	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Anaconda-Philipsburg	100	27	F	S	C	C						
Garrison-Helena	230	50	F	S	P	C	C					
Helena-Great Falls	230	80			F	S	S	P	C	C		
Roundup-Ivanhoe-Sumatra	100	35	F	S	P	C	C					
Ivanhoe-Melstone	69	10			P	C	C					
Ovando-Missoula	230	60		F	S	P	C	C				
Plains-Superior-St Regis	100	25		F	S	P	P	C	C			
East Helena-Hauser	100	8			P	C	C					
161 kV Tie Line to Dillon-Salmon Substation	161	8	P	P	C	C						
Judith Gap-Glengarry	100	31	F	P	C	C						

F = File Application
S = Study Time and Hearing
P = Preconstruction
C = Construction

LEX(A)#9-4

EXHIBIT F

TRANSMISSION PROJECTS FOR CONVERSION TO HIGHER VOLTAGE LEVELS OR TO BE RECONDUCTORED

Project & General Location	Voltage (kV)	Approx Length (Miles)	1983 1st Half	1983 2nd Half	1984 1st Half	1984 2nd Half	1985	1986	1987	1988	1989	1990	1991	1992
Colstrip-Broadview "A"	500	113	C	C										
Loweth-White Sulphur	69	16	C	C	C	C	C							
Rimrock-Bellrock-8th Street Line	100	12		F	P	P	C	C						
Laurin-Virginia City	69	8	C	C										
East Helena-Helena	69	6	C	C	C	C								

F = File Application
P = Preconstruction
C = Construction

LIST OF CONTRACTS

	EFFECTIVE DATE	CONTRACT NO.
Pacific Northwest Coordination Agreement	09/15/64	14-03-48221
BPA-Power Sales (Requirements & Exchange) Agreement	08/27/82	DE-M579-81BP90427
Amendments 1, 1 and 3 Exhibits A thru L		
BPA-Power Sales (Residential Purchase and Sale) Agreement	0/8/27/82	DE-M579-81BP90605
Exhibits A thru F		
BPA & WPPSS-Hanford Exchange	04/12/63	14-03-35621
Exhibit B (Points of Delivery)	09/01/73	
BPA & WPPSS-WPPSS No. 1 Exchange	02/06/73	14-03-39212
Amendment No. 1 (Relocation of Project)	05/31/74	
Letter Agreement (Option on Extended Operation & Cost of Relocation)	05/08/74	
BPA-Hanford Extension (1977-1983)	08/26/77	14-03/79120
Amendment No. 1 (Change of Fiscal Year)	05/18/78	
BPA-Exportable Energy (to Southwest)	01/13/69	14-03-73155
BPA-Hot Springs-Anaconda Wheeling	10/22/63	14-03-40534
Supplement No. 1 (Ovando-Gt. Falls)	03/17/67	
BPA-Glacier Co-op Wheeling	08/25/75	14-03-59142
BPA-Missoula Co-op Wheeling	01/15/68	14-03-74725
Amendment No. 1 (Huson)	04/30/75	
Amendment No. 2 (Clinton)	08/11/78	
MPC-Missoula Electric Co-op. Exhibit B Revision #1 Agreement For Use of Distribution Facilities (Wheeling to Petty Creek) (Miller Creek)	08/01/78	

	EFFECTIVE DATE	CONTRACT NO.
BPA-Ravalli Co-op Wheeling	01/15/68	14-03-74726
Amendment No. 1 (Grantsdale)	03/18/71	
Amendment No. 2 (Victor)	10/18/74	
BPA-Northern Lights Co-op Wheeling	01/15/68	14-02-74724
Amendment #1 (Second Metering Point at Thompson Falls)	12/12/79	
MPC-Northern Lights Co-op (Cherry Creek)	08/15/78	
BPA-Vigilante Co-op Wheeling	08/21/67	14-03-53715
Amendment No. 1 (East Bench)	04/27/70	
Amendment No. 2 (Barretts)	09/24/77	
Amendment No. 3 (Gate of Mountains - Lump Gulch)	05/04/79	
MPC-Sun River Electric Co-op - Wheeling Letter Agreement (MPC Wheeling to Augusta)	10/04/78	
WAPA-Rainbow-Yellowtail - Wheeling Letter Agreement	12/22/77	
USBR-Anaconda-Billings or Hot Springs-Yellowtail Wheeling - Letter Agreement	03/22/68	
USBR-Interconnection, Exchange and Wheeling	05/14/64	14-06-600-8264
Supplement No. 4 (Maintenance)	05/14/70	
Letter Agreement (Reducing Supv. Control Payment)	08/04/72	
Supplement No. 5 (Yellowtail Interconnection)	07/05/71	
Letter Agreement (Net Billing)	12/10/64	
Revision No. 9 Exhibit A	09/25/78	
USBR-Missouri River Coordination	03/30/72	14-06-600-476A
Amendment #1 (Value of Benefits Payments)	06/08/79	
USBR-Cut Bank Line & Area Transmission	07/04/70	14-06-600-58A
USBR-Canyon Ferry-Rainbow Wheeling	01/25/51	179r-1838
Supplement No. 1 (Temp. Initial Service)	05/10/54	
Supplement No. 2 (Extending Term)	07/01/70	

	EFFECTIVE DATE	CONTRACT NO.
Glacier Co-op-Cut Bank Interconnection Agreement	04/05/71	
AMPS Interconnection Agreement	04/21/65	
Service Schedule No. 1 (PUMI Agreement)	07/01/69	
Exhibits A-1; (Revised)	08/19/69	
Exhibits A-2 (Revised)	08/01/71	
Memo of Understanding (O&M Accounting Procedures)	10/01/71	
Idaho-Montana Service Schedule (Interchange, Purchase & Sale)	04/21/65	
Amendment No. 1 (Extending Term)	03/01/74	
Idaho, Utah, Montana Interconnection Agreement	03/04/41	
Service Schedule A-3 with Utah (Sale)	02/14/74	
Service Schedule B-2 with Utah (Exchange)	02/14/74	
Service Schedule F-2 with Idaho (Salmon use of Facilities)	10/01/54	
ICP Agreement (Intercompany Pool)	09/01/73	
Amendment No. 1 (Use of Transmission Facilities)	09/01/81	
PP&L-Montana Exchange Agreement	02/15/66	
PP&L-Montana 50 MW Mutual Wheeling Letter Agreement	05/26/67	
PP&L-Montana Mutural Nonfirm Wheeling Letter Agreement	11/01/80	
USIIS Sales Agreement (Flathead Irrigation Project)	06/23/80	
WSCC Agreement (Western Systems Coordinating Council)	08/04/67	
WSCC Broker Identified Energy and Transmission Service Agreements	03/31/82	

	EFFECTIVE DATE	CONTRACT NO.
WWP-Contract (Sale & Exchange)	10/01/64	
Amendment No. 1 (Hydro @ BPA Rates)	08/31/66	
Amendment No. 2 (Sale of Firm Peaking Power)	07/01/70	
WWP-Letter Agreement (50 MW Peak Purchase)	10/01/82	
Central Montana Generation and Transmission Cooperative (Sale to Co-ops)	01/30/74	
Exhibit A (Revised)	10/27/76	
Exhibit B (Revised)	10/27/76	
Exhibit C (Rate Schedule)	07/01/74	
Big Horn Co-op-Power Agreement (Partial Requirements)	10/20/82	
Exhibit A	10/20/82	

EXHIBIT H

Growth rates for important input variables. All growth rates are average annual growth rates calculated against 1980 actual data.

	1981-1985 %	1980-1991 %	1981-2005 %
Population	0.94	1.08	1.05
Personal Income*	3.60	3.05	2.90
Electricity Price*	11.56	2.82	2.01
Natural Gas Price	11.22	6.81	3.83
Gross National Product	2.54	2.84	2.57

*In real (1981) dollars; that is, dollars with inflation removed.

EXHIBIT I

Growth rates* in sales by sector and peak and energy loads. All growth rates are average annual growth rates calculated against 1981 actual data.

Sales	1981-1985 %	1981-1990 %	1981-2001 %
Residential	4.69	3.85	2.74
Commercial	4.23	3.56	2.42
Industrial	0.67	2.25	2.44
Contract Industrial	6.40	3.04	1.30
Other	3.22	3.05	2.65
Total	4.44	3.31	2.28
Load			
Energy	4.09	3.16	2.22
Peak	3.98	2.98	2.12

*Note that growth rates are useful for comparing changes over time in a given sector, but they may be misleading if used for other types of comparisons. This is because there exists no truly "average year" against which to base the starting point! This is true both in comparisons between sectors in a utility and between utilities.

EXHIBIT "J" IS VOLUMINOUS

AND HAS BEEN SUBMITTED

ONLY TO THE DEPARTMENT OF

NATURAL RESOURCES & CONSERVATION

EXHIBIT "K" IS VOLUMINOUS

AND HAS BEEN SUBMITTED

ONLY TO THE DEPARTMENT OF

NATURAL RESOURCES & CONSERVATION